**Review of Literature**

**Assessment**

**NEW HOPE SCHOOL DISTRICT**

**ASSESSMENT INITIATIVE**

**SWOTS Applicable to Assessment Initiative**

|  |  |  |  |
| --- | --- | --- | --- |
| **STRENGTHS** | **WEAKNESESS** | **OPPORTUNITIES** | **THREATS** |
| Tradition of excellence | Summative assessment is the primary means of assessment | Increasing population of retirements/hiring of new teachers | Merit pay/teachers threatened by test results |
| Committed staff | Data is not driving instruction | Staff/administration communication | Closing of small businesses and plants |
| High expectations of professional growth through education/training for teachers |  | Scheduling | Foreclosures |
| High standardized test scores |  | New initiatives for new assessment methods | Haves and have not’s |
| High graduation rate |  |  | Too much time focused on teaching to the test |
|  |  |  | Time stolen due to NCLB |

**ISLLC Standards Components Addressed by the Assessment System Initiative**

**Standard 1: The Vision of Learning**

*A school administrator is an educational leader who promotes the success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community.*

* 1.4 – Using information sources, data collection & data analysis strategies
* 1.17 --Developing the vision
* 1.19 -- Communicating the vision
* 1.22 -- Implementing plans to achieve goals
* 1.23 -- Using data to develop goals
* 1.27 -- Using existing resources in support of the vision & goals
* 1.28 -- Monitoring and evaluating

**Standard 2: The Culture of Teaching and Learning**

*A school administrator is an educational leader who promotes the success of all students by   
advocating, nurturing, and sustaining a school culture and instructional program conducive to   
student learning and staff professional growth.*

* 2.33 – Mastering effective instructional techniques
* 2.34 – Mastering measurement, evaluation and assessment strategies
* 2.40 – Maintaining student learning as a fundamental purpose
* 2.46 – Developing a safe and supportive learning environment
* 2.64 – Ensuring that student learning is assessed using a variety of techniques

**Standard 3: The Culture of Teaching and Learning**

*A school administrator is an educational leader who promotes the success of all students by ensuring   
management of the organization, operations, and resources for a safe, efficient, and effective learning   
environment.*

* 3.77 –Taking risks to improve schools
* 3.80 -- Supporting quality instruction and student learning
* 3.84 -- Developing procedures to ensure successful teaching and learning
* 3.89 – Managing time to maximize attainment of organizational goals
* 3.92 -- Allocating resources to ensure successful teaching and learning

Prior to the landmark synthesis of research of over 250 studies on formative assessment conducted by Paul Black and Dylan Wiliam in 1998 (as cited in Heritage, 2010), the terms assessment and grading were traditionally perceived and defined as one and the same. Likewise, quizzes and tests given at the conclusion of an assignment or project were typically believed to be sufficient forms of assessment. Grades were produced mainly for reporting purposes and for measuring student learning.

Shortly after the findings of Black and Wiliam were published in England, the *No Child Left Behind Act of 2001* (NCLB) was signed into law in the United States. The intent of NCLB was to decrease the achievement gap between students. Its regulations ushered in the accountability era. Regardless of the breakthrough in research-based data reported in 1998 that supported formative assessment as the catalyst for the largest ever learning gains in low achievers (Black & Wiliam, 1998), the focus was now on high-stakes test results. Teaching to the test to produce qualitative data that would meet the publically announced “Adequate Yearly Progress” was the call to order.

The importance of achievement results on a single assessment through NCLB was a misdirected attempt to improve teaching. It was “focused solely on accountability at the school level” and “learning” was a casualty (Marzano, 2009). The National Assessment of Educational Progress (NAEP) results of 2005 (as cited in Woods, 2007), showed that NCLB failed to accomplish its goal and only marginally closed the achievement gap. It was evident that new methods to improve teaching and learning were needed.

Currently, there is a reformation in education that points back to the earlier research of Black and Wiliam. Formative assessment is considered a “next generation assessment system” capable of producing positive results in learning (Heritage, 2010). This literature review begins with the definition of formative assessment. Next is a discussion of the usefulness of feedback and the roles of the student and the teacher in a formative assessment system. Finally, there is a brief overview of implementation steps and the challenges they bring. It is intended to answer the question of whether or not schools and districts should begin the task of designing a comprehensive formative assessment system.

**Statement of the Problem**

There is a belief by policymakers that standardized testing, also known as high-stakes testing, on its own, improves teaching and learning (Black & Wiliam, 1998). This could not be farther from the truth despite the fact that standardized tests have a high degree of statistical reliability, and several reasons substantiate this claim. First, high-stakes tests are not administered at the beginning of the school year. Therefore, the results are not timely and have minimal impact on the future achievement of students given the assessment because they move on before the data is reported (Ainsworth, 2007; Chappuis & Chappuis, 2008). Second, standardized testing only produces a “snapshot” of student understanding, providing minimal detail for teachers to use to inform and improve instruction for the class of students following the students that actually took the test (Tileston, 2004). And third, the test results are not easily interpreted at the classroom-level for guidance in day-to-day instruction and individual feedback is vague at best (Chappuis & Chappuis, 2008; Ainsworth, 2007).

In addition, because of policymakers’ reliance on high-stakes testing, this summative form of assessment receives a disproportionate amount of attention (Richmond & Schoener, 2008). Decisions are made based on these assessments at every level of the educational system -- decisions that rank-order students for accountability, reinforce underachievement, promote competition and stifle motivation (Black & Wiliam, 1998). Meanwhile, the validity of the reporting system for standardized tests is seldom taken into account. Marzano (2009) describes summative reporting systems such as those used for NCLB as “status oriented.” He argues that this system is unfair to districts with a majority of low income or otherwise disadvantaged students due to the proven “strong relationship between a student’s family income and student achievement” (p. 26).

**Purpose**

Given the shortcomings of summative high-stakes standardized testing, educators must challenge their current beliefs of assessment and change the way they use assessment and view assessment results. Black and Wiliam (1998) assert that “a focus on standards and accountability that ignores the process of teaching and learning in classrooms will not provide the direction that teachers need in their quest to improve” (p. 1). If the goal is for teachers to teach more effectively and for students to learn more effectively, then formative assessment is a proven means of accomplishing this because it focuses on what students are learning rather than on their achievement scores.

The purpose of this initiative is to understand “the role that formative assessments play in an interdependent instruction and assessment system” so that teachers “*make time* for this powerful practice” (Ainsworth & Viegut, p. 3). By making this paradigm shift from summative assessment to formative assessment, educators will enhance the achievement of individual students and raise overall achievement (Black & Wiliam, 1998; Marzano, 2009). Ideally, formative assessment, when used effectively, provides accurate and timely data to show students’ strengths and their weaknesses of skills that can be improved (Lang, Stanley, & Moore, 2008). This increased focus on using feedback to improve areas of deficiency ensures student learning.

**Review of Literature**

**Defining Formative Assessment**

A systematic review of literature revealed that formative assessment is defined in a variety of ways. A synthesis of the key words and terms from the research (in bold) generated this formal definition: A **planned** **process** in which the **ongoing** activities undertaken in the classroom increase student **engagement and learning** by providing **timely** informational **feedback** and **decision-making data** so **students can adjust** current learning tactics in which they employ and **teachers can modify** instructional methods in which they implement (Marzano, 2007a; Marzano, 2010, Marzano & Waters, 2009; Popham, 2008).

A good determination of the difference between formative and summative assessment is how the results will be used (Chappuis & Chappuis, 2008). Formative assessment is intentionally used while learning is in progress to form the direction of improvement (Marzano, 2009; Vermont Department of Education). It is “for” learning “during” learning while summative assessment is “of” learning “after” learning. Bob Stake (as cited in Marzano, 2010) succinctly describes the difference when he states, “When the cook tastes the soup it is formative, when the guests taste the soup it is summative” (p. 27).

Brookhart, Moss and Long (2008) refer to several practices that are necessary for an effective, comprehensive formative assessment system:

* Clearly communicate the learning target to students
* Give high-quality descriptive feedback tied to learning target
* Give guidance that helps students realize they can do what they need to do
* Raise the quality of classroom discourse

For educators to change their instructional approach to include these key practices and make assessment meaningful, Guskey (2007) asserts they must learn to think about assessment differently than they had in the past, and much less finite. Specifically, teachers must use formative assessment as a source of information for both themselves and students, allowing for additional opportunities to demonstrate success.

**Feedback**

Feedback is a response or comment to “something.” It is useful communication about how one did in light of some goal that just happened – what was or was not accomplished (Wiggins, 2004). Ineffective feedback is a waste of a teacher’s time and is harmful to students because it is counterproductive to motivating and engaging students (Brookhart, 2008; Reeves, 2007). Marzano’s research (2007a) concluded that when teachers use negative “telling” feedback opposed to positive “explaining feedback,” achievement decreases by 5.5 percentile points (p. 104). However, feedback is an essential component of formative assessment (Black & Wiliam, 1998).

As a result of his meta-analysis of over 8,000 studies, John Hattie (as cited in Marzano, 2007a) reported that feedback is “the most powerful single modification that enhances achievement” (p. 104). Effective communication is the cornerstone of formative assessment to improve student learning when it provides descriptive, accurate and timely information that can be used by teachers and students to describe what is and is not working. Black and Wiliam (1998) list three essential elements for quality feedback to occur: 1) recognizing the desired goal; 2) evidence about present position; and 3) understanding how to close the gap between number one and number two.

**The Role of the Student in Formative Assessment**

As teachers shift their mental models from summative to formative assessment, in time, the culture of learning within their classrooms evolves. Through the formative assessment process, students are trained to self-assess and self-regulate their own learning. They find out that they are responsible for their own learning (Brookhart, Moss & Long, 2008; Vermont Department of Education). Through effective formative feedback, students are motivated take ownership of their progress; then they take control of their learning to close the gap between the desired goal and their present position. Formative assessment describes where students are in relation to their learning goal and helps students answer three key questions to self-assess and set goals: 1) Where am I going? 2) Where am I now? and 3) How do I prepare for and improve performance? (Brookhart, 2008; Chappius & Chappius, 2008).

The research of Bloom (as cited in Brookhart, Moss & Long, 2008) shows a “connection between formative assessment and student motivation” (p. 2). Bloom’s study further revealed that student achievement and time on task also increased in formative assessment classrooms. The characteristics of students in a formative assessment classroom are:

* Students recognize what proficient work looks like and determine necessary steps for improving work
* Students monitor progress toward reaching learning targets
* Students develop and/or use scoring guides and rubrics to assess their own work or that of peers
* Students use teacher and peer feedback to improve their work
* Students reflect on work and make adjustments as learning occurs (Kentucky Department of Education, 2010)

In the formative assessment classroom, the minute-by-minute and day-by-day focus is on teachers and students making informed decisions to direct teaching and learning.

**The Role of the Teacher in Formative Assessment**

One of the strategic components of a comprehensive formative assessment system is “backward planning.” Teachers must “begin with the end in mind.” This means they must start planning with the knowledge of what the students must be able to know and do based on state, district and school level standards. The key is to know what is needed to be successful. Standards that are well-aligned with teacher instruction are the foundation of student learning and teacher assessment (Guskey, 2007).

Formative assessment is frequently and systematically used by teachers to track students’ learning progression through the use of clearly communicated rubrics, matrices and scoring guides which are essential for a culture of success (Black & Wiliam, 1998; Tileston, 2004). Formative assessment identifies the students’ level of understanding and provides feedback on how to move up to the next level on the rubric, matrix or scoring guide before summative assessment takes place. It objectively identifies underperforming students so extra support and differentiated instruction can be provided (Marzano & Waters, 2009). In addition, formative assessment is generally ungraded or only selected results from formative assessments are averaged into the formal grade (Chapman & King, 2005). The data provided through formative assessment is directly related to revision in classroom instruction and is used to inform teachers where re-teaching or an “instructional alternative” is necessary (Davies, 2007; Guskey, 2007). It also allows teachers to provide students with “assessment-based descriptive feedback” and allows students to have repeated chances to adjust learning (Guskey, 2007; Popham, 2008).

Based on the impact that formative assessment has on learning, it is an effective use of instructional time. Bangert-Drowns, Kulick and Kulick (as cited in Marzano, 2007b, p. 13) showed that two formative assessments per week over a 15-week period produce a 29.0 percentile gain in the class score average. Based on meta-analysis of 21 studies by Fuchs & Fuchs, two formative assessments per week result in a 30 percentile point gain (as cited in Marzano, 2007b, p. 14). Additionally, Black and Wiliam (1998) contend that formative assessment “done well” results in student achievement gains of about 26 percentile points (as cited in Marzano, 2007a, p. 105).

**Implementing a Formative Assessment System**

Professional Learning Communities (PLC’s) are recommended as an effective approach to implementing a school wide or district wide formative assessment system which makes it a cost-effective method of school improvement (Popham, 2008; William, 2007). There are many steps including curriculum mapping, determining Power Standards, creating common formative and summative assessments that are intentionally aligned to the Power Standards, establishing pilot programs and pilot tests, developing district benchmarks, collecting evidence and making decisions for improvement, to name a few -- all of which must be orchestrated and monitored by the building principal and district administrators to ensure successful implementation at these levels. This process may take several years to complete (Ainsworth, 2007; Ainsworth & Viegut, 2006; Marzano, 2007a; Marzano & Waters, 2009).

However, developmental formative assessment skills for a teachers’ classroom level formative assessment can be built through independent research, professional development and PLC’s. Teachers can begin to deliberately link formative assessment to increased communication with students, differentiated instruction, specific, useful feedback and tracking student progress with minimal training at this basic level.

**Challenges Related to Implementation**

Few teachers receive formal training in the practice of formative assessment, data-analysis or feedback prior to becoming a teacher (Black & Wiliam, 1998; Guskey, 2007). Even with training, it may take years of practice to be skillful in using a comprehensive formative assessment system that aligns classroom level formative assessments with district level common assessments and state level high-stakes summative assessments while linking assessment to instruction, instruction to curriculum and curriculum to standards. In addition, having teachers shift their mental model of assessment from an evaluative device that assigns grades to a system that views assessment as an essential element in future instruction is a difficult task in light of the time and effort that needs to be exuded to accomplish this task (Ainsworth & Viegut, 2006; Guskey, 2007). Teachers need to conceptualize the connection of formative assessment to the “big picture” or other components on instruction and assessment rather than view formative assessment as just one more thing to do (Ainsworth & Viegut, 2006).

The process of changing the culture of assessment is further complicated by the fact that some students are “content to get by.” These students will avoid difficult tasks such as becoming actively involved in their learning (Black & Wiliam, 1998). Motivating and engaging all students to embrace formative assessment is part of the challenge.

**Conclusion**

Formative assessment is a process used by students and teachers during instruction to positively impact student learning through effective, descriptive feedback that directs student learning. It is an essential component of teaching and learning that checks the progress of students through data-driven decision making as students move towards classroom, district and state assessments. In a study conducted in Western, Pennsylvania, formative assessment was credited with dramatically improving state test results at every level (Brookhart, Moss & Long, 2008). Advantages of formative assessment over summative assessment include its timeliness, the fact that it is an ongoing process rather than an event, it is mostly ungraded, it is non-judgmental, and it increases student motivation. As Black and Wiliam (as cited in Marzano & Waters, 2009) reported, the research “shows conclusively that formative assessment does improve learning. The gains in achievement appear to be quite considerable…amongst the largest ever for educational interventions” (p. 27). Based on the review of literature presented here, the answer to the question of whether or not schools and districts should begin the task of designing a comprehensive formative assessment system should clearly be, “Yes.” The question now becomes, “How soon can they get started?”

Annotated Bibliography

Ainsworth, L. (2007). Common formative assessments: The centerpiece of an integrated standards-

based assessment system. In D. Reeves (Ed.), *Ahead* *of the curve.* (pp. 79-102). Bloomington, IN: Solution Tree Press.

The author describes common formative assessment as a powerful practice when it is aligned from the classroom to the state level. He describes the use of Power Standards and data teams as part of the assessment process. He concludes with recommendations for designing and implementing common formative assessments.

Ainsworth, L., & Viegut, D. (2006). *Common formative assessments.* Thousand Oaks, California: Corwin

Press.

This book offers guidelines for educators and instructional leaders that want to align curriculum, instruction and assessment. It presents a model of an integrated instruction and assessment system that can be used as a framework to develop common formative assessments. The advantages of formative classroom assessment to provide immediate feedback to students and teachers to meet the learners’ needs are discussed. Strategies to implement and sustain common formative assessment in a school and district are also included.

Black, P., & Wiliam, D. (1998). Inside the black box: Raising standards through classroom assessment.

*Phi Delta Kappa, 80*(2), 139-144. Retrieved from <http://www.londonmet.ac.uk/library/>

i93438\_22.htm

The authors reviewed 250 journal articles and book chapters to determine whether formative assessment in the classroom raised student achievement. Evidence indicated that frequent formative assessment accompanied by feedback leads to learning gains for all students, especially low-achieving and learning disabled students. They posit that resources going into the “black box” (schools) should focus on what they consider the heart of effective teaching: formative assessment.

Brookhart, S. M. (January 2008). Feedback that fits. *Educational Leadership, 65*(4), 54-

59. Retrieved from <http://www.ascd.org/publications/educational->leadership/dec07/

vol65/num04/Feedback-That-Fits.aspx

The author suggests that effective feedback is given when teachers learn how to give productive feedback that is related to a goal rather than destructive feedback by considering how students will feel when they receive the feedback. Several examples of effective and ineffective feedback are provided. She concludes that feedback should be given at every opportunity and with continued practice teachers can improve this important skill.

Brookhart, S., Moss, C., & Long, B. (2008). Formative assessment that empowers. *Educational*

*Leadership, 66*(3), 52-57. Retrieved from <http://www.ascd.org/publications/educational->

leadership/nov08/vol66/num03/Formative-Assessment-That-Empowers.aspx

The authors discuss the power of teachers to advance the use of formative assessment through mutual communication among them to improve teaching. In the process, students also increase communication and ownership of their own learning. It is noted that it takes years of training and practice to see strong results but contend that it is worth the effort.

Chappuis, S., & Chappuis J. (January 2008). The best value in formative assessment.

*Educational Leadership, 65*(4), 14-19. Retrieved from <http://www.ascd.org/publications/>

educational-leadership/dec07/vol65/num04/The-Best-Value-in-Formative-Assessment.aspx

The authors argue that day-to-day formative assessment improves teaching and learning more than benchmark assessments when it is conducted by assessment-literate teachers. They describe the advantages of formative classroom assessment and note that effective, descriptive feedback that gives the learner a plan for corrective action is the key difference between formative and summative grading. Examples of effective feedback are provided.

Chapman, C., & King, R. (2005). *Differentiated assessment strategies.* Thousand Oaks, California:

Corwin Press.

Based on brain research, the authors offer assessment strategies and tools to empower students to self-assess and for teachers to address the learning types and levels of all students to guide and monitor student performance. Formative assessment is discussed as a means to provide ongoing assessment and continuous feedback to improve student learning.

Davies, A. (2007). Involving students in the classroom assessment process. In D. Reeves (Ed.), *Ahead*

*of the curve.* (pp. 31-58). Bloomington, IN: Solution Tree Press.

The author uses research-based insight to promote the importance of formative classroom assessment, feedback, motivation and summative evaluation as a means to involve students in the learning process.

Guskey, T. R. (2007). Using assessment to improve teaching and learning. In D. Reeves (Ed.), *Ahead*

*of the curve.* (pp. 15-30). Bloomington, IN: Solution Tree Press.

The author asserts the importance of regular assessment to modify instructional practice. The process of using assessments to inform teaching and learning, re-direct instruction after assessment and to allow students a second opportunity to demonstrate learning is stressed.

Heritage, M. (2010). *Formative assessment and next-generation assessment systems: Are we losing an*

*opportunity?* Retrieved from Council of Chief State School Officers website:

<http://www.ccsso.org/Resources/Programs/Formative_Assessment_for_Students_and_Teacher>

s\_(FAST).html

As partial fulfillment of the United States Department of Education Rate to the Top (RTTP) initiative, this white paper was developed for the Council of Chief State School Officers as a discussion and planning tool on formative evaluation as a process not a tool.

Kentucky Department of Education. (2010). Section two: Classroom assessment and reflection.

*Characteristics of highly effective career and technical education teaching and learning.* Retrieved from <http://www.education.ky.gov/KDE/Instructional+Resources/Highly+Effective>+

Teaching+and+Learning/Characteristics+of+Highly+Effective+Career+and+Technical+Education+

Teaching+and+Learning.htm

Section two of this document focuses on the teacher and student characteristics of classroom assessment and reflection as a collaborative and systemic information gathering activity between teachers and students.

Lang, S., Stanley, T., & Moore, B. (2008). *Short cycle assessment.* Larchmont, NY: Eye on Education

The authors use a step-by-step process to show teachers how to provide frequent feedback to students through formative assessment which they also refer to as short-cycle assessment.

Marzano, R. J. (2007a). Designing a comprehensive approach to classroom assessment. In D. Reeves

(Ed.), *Ahead* *of the curve.* (pp. 103-126). Bloomington, IN: Solution Tree Press.

The author describes how to design a comprehensive approach to classroom assessment. He presents research-based findings in effective classroom assessment as the building blocks to implementing a five-step process for an assessment system that will increase student achievement.

Marzano, R. J. (2007b). *The art and science of teaching.* Alexandria, Virginia: ASCD.

This book is written for teachers to help them examine their current teaching and then use research-based data to improve their instructional design to present more effective classroom lessons that will increase student achievement. Formative assessment and feedback are discussed as powerful measurement and instructional tools. Using a scale to score assessments and tracking student growth in their scores over time are emphasized as important components of the formative approach.

Marzano, R. J. (2010). *Formative assessment and standards-based grading.* Bloomington, IN: Marzano

Research Laboratory.

This book, written primarily for teachers, summarizes key research in assessment and grading and then offers practical strategies to implement formative assessment in the classroom – even if the school uses a traditional grading system. Different approaches are offered for the reader to tailor the described theory to practice at any grade or teaching level to make judgments about student progress at any time.

Marzano, R. J., & Waters, T. (2009). Setting and monitoring nonnegotiable goals for achievement. In

*District leadership that works.* (pp. 23-52). Bloomington, IN: Solution Tree Press

The authors devote one chapter of this book to discussing the need for a formatively based, value-added system. They present a four-phase process to be used in designing and monitoring this system. Rubrics or scale scores for formative assessments are employed to uniformly inform stakeholders of progress.

Popham, W. J. (2008). *Transformative assessment.* Alexandria, Virginia: ASCD.

This book explains the research supporting formative assessment and delineates the process into four levels. It is written for teachers and administrators to try to eliminate confusion about what formative assessment is and how it can be implemented without being too elaborate or time consuming. It concludes with an explanation of the limitations that formative assessment can have on student performance on traditional or customized standardized tests.

Reeves, D. (2007). Challenges and choices: The role of educational leaders in effective assessment. In

D. Reeves (Ed.), *Ahead* *of the curve.* (pp. 227-252). Bloomington, IN: Solution Tree Press.

The author describes how leaders can implement and sustain the use of assessment and feedback to improve student achievement. He incorporates the use of Power Standards, assessment literacy and evidence to support his position. He argues that school leaders play a critical role in instituting these important practices.

Richmond, N. & Schoener, J. (2008). *Transforming schools and classrooms through formative*

*assessment.* Foundation for Educational Administration Fall Conference. October

10, 2010, Monroe Township, NJ.

Nine types of assessment were discussed with a focus on using formative assessment to encourage and improve learning.

Tileston, D. W. (2004), *What every teacher should know about student assessment.*  Thousand Oaks,

California: Corwin Press.

The author examines current research on assessment, teacher-made tests and standardized tests. Information is provided on assessment tools, monitoring and instructional effectiveness. Preparing rubrics, backwards planning and self-assessment are discussed. The final chapter describes the importance of self-efficacy to increase motivation and offers several examples of ways to bring up scores on state and national assessments.

Vermont Department of Education. (n.d.), *Core principles of high-quality local assessments systems:*

*A publication providing technical assistance to Vermont schools as they engage in the process*

*of comprehensive local assessment planning.* Retrieved from <http://education.vermont.gov/>

new/pdfdoc/pgm\_curriculum/local\_assessment/core\_principles\_08.pdf

This publication stresses the importance of collaborative communication between key stakeholders to determine shared expectations for student learning. It provides a question and answer format to initiate dialogue on the relationship between learning and achievement and highlights the importance of formative assessment in a comprehensive assessment system. It concludes with what the Vermont Department of Education believes are the five key characteristics of effective systemic assessment systems.

Wiggins, G. (2004). *Assessment as feedback.* Retrieved from New Horizons for Learning website:

<http://www.newhorizons.org/strategies/assess/wiggins.htm>

This paper questions why the “simple” steps to give effective feedback are often not employed.

It goes on to describe the difference between feedback and evaluation and then defines “concurrent

feedback” as an important component of the feedback “loop.”

William, D. (2007). Content then process: Teacher learning communities in the service of formative

assessment. In D. Reeves (Ed.), *Ahead* *of the curve.* (pp. 183-206). Bloomington, IN: Solution

Tree Press.

The author argues that the most critical change that can be made to improve students’ learning is for teachers to adjust their minute-to-minute instruction. He contends that professional learning communities are the most effective method of developing this necessary change and offers five key strategies and techniques for effective formative assessment that promote a teacher’s ability to continually adjust instruction.

Wood, D. (2007). *No child left behind and the achievement gap: Contributing factors and trends in*

*student populations* (Master’s thesis). Retrieved from: <http://www.cehs.ohio.edu>/resources

/documents/Wood-F07.pdf

This thesis examines the environmental and school factors that contribute to the achievement gap and proposes strategies to close the gap.